

§ 173.116

49 CFR Ch. I (10–1–12 Edition)

(1) *High pressure liquefied gas* which is a gas with a critical temperature between  $-50\text{ }^{\circ}\text{C}$  ( $-58\text{ }^{\circ}\text{F}$ ) and  $+65\text{ }^{\circ}\text{C}$  ( $149\text{ }^{\circ}\text{F}$ ), and

(2) *Low pressure liquefied gas* which is a gas with a critical temperature above  $+65\text{ }^{\circ}\text{C}$  ( $149\text{ }^{\circ}\text{F}$ ).

(f) *Compressed gas in solution*. A *compressed gas in solution* is a non-liquefied compressed gas which is dissolved in a solvent.

(g) *Cryogenic liquid*. A *cryogenic liquid* means a refrigerated liquefied gas having a boiling point colder than  $-90\text{ }^{\circ}\text{C}$  ( $-130\text{ }^{\circ}\text{F}$ ) at 101.3 kPa (14.7 psia) absolute. A material meeting this definition is subject to requirements of this subchapter without regard to whether it meets the definition of a non-flammable, non-poisonous compressed gas in paragraph (b) of this section.

(h) *Flammable range*. The term *flammable range* means the difference between the minimum and maximum volume percentages of the material in air that forms a flammable mixture.

(i) *Service pressure*. The term *service pressure* means the authorized pressure marking on the packaging. For example, for a cylinder marked “DOT 3A1800”, the service pressure is 12410 kPa (1800 psig).

(j) *Refrigerant gas or Dispersant gas*. The terms *Refrigerant gas* and *Dispersant gas* apply to all nonpoisonous refrigerant gases; dispersant gases (fluorocarbons) listed in §172.101 of this subchapter and §§173.304, 173.314(c), 173.315(a), and 173.315(h) and mixtures thereof; and any other compressed gas having a vapor pressure not exceeding 260 psia at  $54\text{ }^{\circ}\text{C}$  ( $130\text{ }^{\circ}\text{F}$ ), used only as a refrigerant, dispersant, or blowing agent.

(k) For Division 2.2 gases, the oxidizing ability shall be determined by tests or by calculation in accordance with ISO 10156:1996 and ISO 10156-2:2005 (IBR, see §171.7 of this subchapter).

(l) The following applies to aerosols (see §171.8 of this subchapter):

(1) An aerosol must be assigned to Division 2.1 if the contents include 85% by mass or more flammable components and the chemical heat of combustion is 30 kJ/g or more;

(2) An aerosol must be assigned to Division 2.2 if the contents contain 1% by mass or less flammable components

and the heat of combustion is less than 20 kJ/g.

(3) Aerosols not meeting the provisions of paragraphs (1)(1) or (1)(2) of this section must be classed in accordance with the appropriate tests of the UN Manual of Tests and Criteria (IBR, see §171.7 of this subchapter). An aerosol which was tested in accordance with the requirements of this subchapter in effect on December 31, 2005, is not required to be retested.

(4) Division 2.3 gases may not be transported in an aerosol container.

(5) When the contents are classified as Division 6.1, PG III or Class 8, PG II or III, the aerosol must be assigned a subsidiary hazard of Division 6.1 or Class 8, as appropriate.

(6) Substances of Division 6.1, PG I or II, and substances of Class 8, PG I are forbidden from transportation in an aerosol container.

(7) Flammable components are Class 3 flammable liquids, Division 4.1 flammable solids, or Division 2.1 flammable gases. The chemical heat of combustion must be determined in accordance with the UN Manual of Tests and Criteria (IBR, see §171.7 of this subchapter).

[Amdt. 173–224, 55 FR 52634, Dec. 21, 1990]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §173.115, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at [www.fdsys.gov](http://www.fdsys.gov).

§ 173.116 Class 2—Assignment of hazard zone.

(a) The hazard zone of a Class 2, Division 2.3 material is assigned in column 7 of the §172.101 table. There are no hazard zones for Divisions 2.1 and 2.2. When the §172.101 table provides more than one hazard zone for a Division 2.3 material, or indicates that the hazard zone be determined on the basis of the grouping criteria for Division 2.3, the hazard zone shall be determined by applying the following criteria:

Hazard zone	Inhalation toxicity
A .....	LC <sub>50</sub> less than or equal to 200 ppm.
B .....	LC <sub>50</sub> greater than 200 ppm and less than or equal to 1000 ppm.
C .....	LC <sub>50</sub> greater than 1000 ppm and less than or equal to 3000 ppm.

Hazard zone	Inhalation toxicity
D .....	LC <sub>50</sub> greater than 3000 ppm or less than or equal to 5000 ppm.

(b) The criteria specified in paragraph (a) of this section are represented graphically in §173.133, Figure 1.

[Amdt. 173-224, 55 FR 52634, Dec. 21, 1990, as amended at 56 FR 66268, Dec. 20, 1991; Amdt. 173-138, 59 FR 49133, Sept. 26, 1994; 67 FR 61013, Sept. 27, 2002]

§§ 173.117-173.119 [Reserved]

§ 173.120 Class 3—Definitions.

(a) *Flammable liquid.* For the purpose of this subchapter, a *flammable liquid* (Class 3) means a liquid having a flash point of not more than 60 °C (140 °F), or any material in a liquid phase with a flash point at or above 37.8 °C (100 °F) that is intentionally heated and offered for transportation or transported at or above its flash point in a bulk packaging, with the following exceptions:

(1) Any liquid meeting one of the definitions specified in §173.115.

(2) Any mixture having one or more components with a flash point of 60 °C (140 °F) or higher, that make up at least 99 percent of the total volume of the mixture, if the mixture is not offered for transportation or transported at or above its flash point.

(3) Any liquid with a flash point greater than 35 °C (95 °F) that does not sustain combustion according to ASTM D 4206 (IBR, see §171.7 of this subchapter) or the procedure in appendix H of this part.

(4) Any liquid with a flash point greater than 35 °C (95 °F) and with a fire point greater than 100 °C (212 °F) according to ISO 2592 (IBR, see §171.7 of this subchapter).

(5) Any liquid with a flash point greater than 35 °C (95 °F) which is in a water-miscible solution with a water content of more than 90 percent by mass.

(b) *Combustible liquid.* (1) For the purpose of this subchapter, a *combustible liquid* means any liquid that does not meet the definition of any other hazard class specified in this subchapter and has a flash point above 60 °C (140 °F) and below 93 °C (200 °F).

(2) A flammable liquid with a flash point at or above 38 °C (100 °F) that does not meet the definition of any other hazard class may be reclassified as a combustible liquid. This provision does not apply to transportation by vessel or aircraft, except where other means of transportation is impracticable. An elevated temperature material that meets the definition of a Class 3 material because it is intentionally heated and offered for transportation or transported at or above its flash point may not be reclassified as a combustible liquid.

(3) A combustible liquid that does not sustain combustion is not subject to the requirements of this subchapter as a combustible liquid. Either the test method specified in ASTM D 4206 or the procedure in appendix H of this part may be used to determine if a material sustains combustion when heated under test conditions and exposed to an external source of flame.

(c) *Flash point.* (1) *Flash point* means the minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture with air near the surface of the liquid. It shall be determined as follows:

(i) For a homogeneous, single-phase, liquid having a viscosity less than 45 S.U.S. at 38 °C (100 °F) that does not form a surface film while under test, one of the following test procedures shall be used:

(A) Standard Method of Test for Flash Point by Tag Closed Cup Tester, (ASTM D 56) (IBR; see §171.7 of this subchapter);

(B) Standard Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus, (ASTM D 3278) (IBR; see §171.7 of this subchapter); or

(C) Standard Test Methods for Flash Point by Small Scale Closed Tester, (ASTM D 3828) (IBR; see §171.7 of this subchapter).

(ii) For a liquid other than one meeting all the criteria of paragraph (c)(1)(i) of this section, one of the following test procedures must be used:

(A) Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester, (ASTM D 93) (IBR; see §171.7 of this subchapter). For cutback asphalt,